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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,523	11/30/2005	Thomas Garoff	05-370	9469

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EXAMINER	
PASTERCZYK, JAMES W	

ART UNIT	PAPER NUMBER
1755	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/536,523	GAROFF ET AL.	
	Examiner	Art Unit	
	J. Pasterczyk	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-57 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-57 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 7/7/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-57 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the group 13 or 14 element compound being an aluminum halide, does not reasonably provide enablement for the group 13 or 14 element being anything else. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. The specification is drawn overwhelmingly to the element here being aluminum. No working examples are given for any other element, whether of group 13 or 14, hence one of ordinary skill in the art would be required to perform extensive undue experimentation in order to ascertain how to practice the invention to its full scope as currently claimed.

2. Claims 21-25 and 52-57 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the transition metal of the Ziegler-Natta catalyst being titanium, does not reasonably provide enablement for that metal being anything other than a group 4 or 5 metal. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. The sole working examples in the present specification are to the transition metal being titanium, yet applicants are claiming essentially every transition metal as the transition metal of the catalyst species. However, only a few transition metals are known to be capable of olefin polymerization in Ziegler-Natta catalyst systems, specifically those of groups 4 and 5. While one may reasonably expect other electron poor early transition metals to behave as catalysts, certainly the later electron rich ones would not be expected to so behave. Thus one of ordinary skill in the art would be required to perform extensive undue experimentation in order to practice the claimed invention to its full claimed scope.

3. Claims 1-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, l. 4, it is not clear that solutions of the elements of groups 13 and 14 are what are actually intended; as currently written there is an inconsistency between this line and l. 8-9 which recites compounds of such elements. In l. 12 "solidified reaction product" lacks antecedent basis since it is not recited in step (i). It is also not clear how separating or washing the reaction product would necessarily have an effect on the Al:Mg mole ratio since there is no recitation of the solubility of either the Al or Mg species in any of the solvents used, whether for the reaction or the washing. It is not clear what criteria are to be considered in the "adjusting" step, in this claim as well as claims 26-28. Step (ii) reads as if the recovering and the adjusting are performed by the same single act, which is not clear from the claim as currently drafted.

The bulk of claim 2 can be canceled since x is defined as being 2, hence the identity of R_1 and the value of n are irrelevant, though this would make the compound by definition not a hydrocarbyloxy. Nevertheless, the variable R_1 appears in many of the claims in various chemical formulae, yet it is not clear that it is actually the same moiety in each appearance. Using diffferent variable names for different chemical species would be wise throughout the claims and specification. For instance, in claim 38, the superior claims have at least two formulas I and III that have R_1 as a variable, hence it is unclear there which formula is being limited.

Claim 3 currently reads as if the mole ratio is adjusted after the reaction product is obtained, yet it is not clear how temporally that can be performed. Some word other than "adjusted" seems appropriate here and where else it appears since this is a transitive verb.

Claims 5 and 29 would read more clearly if rewritten in part -- . . . wherein the wash solution is an inert linear or branched, aliphatic, alicyclic or aromatic C_{5-20} hydrocarbon or mixtures thereof . . . --.

In claim 10, since the value of x is zero, there is no need to recite the identity of X or include it in the formula.

Claims 15 and 40 use the term "obtainable by" to refer to compositions. However, in this context the term makes the claims indefinite; see *Ex parte Tanksley*, 26 USPQ 2d 1384; compare *Atlantic Thermoplastics Co. Inc. v. Faytex Corp.*, 970 F.2d 834, 23 USPQ 2d 1481, 1486, FN 6 (Fed. Cir. 1992), citing *Cochrane v. BASF*, 111 U.S. 293. The proper term would be --obtained by--.

Claim 16 fails to further limit claim 1 since the number in the last line of claim 1 is the same as that of claim 16.

In claim 18, l. 4, close up the spaces in the formulae. In l. 10 delete "each", and since x is defined as zero the aluminum compound is AlX_3 and the references to R_1 and x can be deleted, both in the text and the formula in (b).

In claim 23 correct the formula for titanium tetrachloride.

Claims 25, 56 and 57 provides for the use of catalyst components, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 25, 56 and 57 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a

process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966). Nevertheless, each of these claims should begin with --A--, not "The".

In claims 30 and 31 change "in" to --at--.

Claim 41 fails to limit claim 26 since the ratios are the same in the two claims.

In claim 45 since x is defined as zero the bulk of the text is superfluous since the compound is an aluminum trihalide.

Claim 47 fails to limit claim 42 since the values of the ratios are the same.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Gessell et al., USP 4,496,660 (hereafter referred to as Gessell).

Gessell discloses the invention as claimed (example 22; claims 13 and 21).

6. Claims 1-57 are rejected under 35 U.S.C. 102(b) as being anticipates by WO 01/55230 (hereafter referred to as Garoff).

Garoff discloses the invention as claimed (examples 2, 3 and 6).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/55741 (hereafter referred to as Vereecke).

Vereecke discloses the invention substantially as claimed (pp. 7-9, catalysts A and B).

Vereecke lacks disclosure of the ratio of the aluminum to magnesium.

However, such a ratio may have easily been arrived at by only minor experimentation by the routineer in the art.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Verbeecke with a reasonable expectation of obtaining a highly-useful catalyst support and method of making it with the expected benefit of controlled particle size and morphology with their attendant benefits to the polymer produced.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 571-272-1375. The examiner can normally be reached on M-F from 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

J. Pasterczyk

AU 1755

6/9/06

J. A. LORENGO
SUPERVISORY PATENT EXAMINER